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(FILE 'HOME' ENTERED AT 14:11:21 ON 07 DEC 2004)

FILE 'REGISTRY' ENTERED AT 14:11:40 ON 07 DEC 2004  
L1 1 S 492-37-5

FILE 'CAPLUS' ENTERED AT 14:12:15 ON 07 DEC 2004

L2 227 S 492-37-5/PREP  
L3 91 S 492-37-5/PROC  
L4 5 S 492-37-5/PUR  
L5 318 S L2 OR L3 OR L4  
L6 93287 S ARYL ALCOHOL OR PHENYLALCOHOL OR PHENYL HALIDE OR OLEFIN  
L7 9 S L5 AND L6  
L8 450185 S ALCOHOL OR HALIDE OR OLEFIN  
L9 39 S L5 AND L8  
L10 39 S L7 OR L9  
L11 31 S L10 AND PY<2000  
L12 10 S L11 AND PALLADIUM

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L12 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:606682 CAPLUS  
DOCUMENT NUMBER: 131:336794  
TITLE: Highly efficient catalyst system for the synthesis of  
2-arylpropionic acids by carbonylation  
AUTHOR(S): Seayad, A.; Jayasree, S.; Chaudhari, R. V.  
CORPORATE SOURCE: Homogeneous Catalysis Division, National Chemical  
Laboratory, Pune, 411008, India  
SOURCE: Catalysis Letters (1999), 61(1,2), 99-103  
CODEN: CALEER; ISSN: 1011-372X  
PUBLISHER: Baltzer Science Publishers  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 131:336794

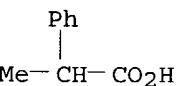
AB Carbonylation of 1-(4-isobutylphenyl)ethanol has been studied using a  
homogeneous catalyst system consisting of PdCl<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>/TsOH/LiCl. Higher  
reaction rates with TOF up to 1200 h<sup>-1</sup> and ibuprofen selectivity >95% have  
been achieved at 388 K under a CO partial pressure of 5.4 MPa. The  
reaction proceeds through the formation of 4-isobutylstyrene and  
1-(4-isobutylphenyl)ethyl chloride as intermediates. The same catalyst  
system is shown to be effective for carbonylation of various  
 $\alpha$ -arylethanol, vinyl aroms. and corresponding chloro derivs.

IT 492-37-5P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(catalytic carbonylation of (isobutylphenyl)ethanol and related  
comps.)

RN 492-37-5 CAPLUS

CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

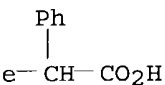
ACCESSION NUMBER: 1999:15905 CAPLUS  
DOCUMENT NUMBER: 130:124742  
TITLE: Regioselective effect of CoCl<sub>2</sub> in olefin  
hydrocarboxylation catalyzed by PdCl<sub>2</sub>(Ph<sub>3</sub>P)<sub>2</sub> complex  
AUTHOR(S): Kron, T. E.; Terekhova, M. I.; Noskov, Yu. G.; Petrov,  
E. S.  
CORPORATE SOURCE: Nauchno-Issled. Fiz.-Khim. Inst. im. L.Ya. Karpova,  
Gos. Nauchn. Tsentr Ross. Fed., Moscow, Russia  
SOURCE: Zhurnal Fizicheskoi Khimii (1998), 72(10),  
1834-1838  
CODEN: ZFKHA9; ISSN: 0044-4537  
PUBLISHER: MAIK Nauka  
DOCUMENT TYPE: Journal  
LANGUAGE: Russian

AB Various factors such as CO pressure, water concentration, excess ligand L (PPh<sub>3</sub>),  
and the presence of CoCl<sub>2</sub> were examined for their influence on the  
regioselectivity of PdCl<sub>2</sub>L<sub>2</sub>-catalyzed hydrocarboxylation of 1-heptene,  
where regioselectivity  $S = 100 + r_1/(r_1 + r_2)$  was defined in terms  
of the rates of accumulation of normal and branched isomers  $r_1$  and  $r_2$ ,  
resp. The bimetallic catalyst system led to an increase in S (from e.g.,  
66% without Co 79% with); this was observed even more dramatically with  
styrene, where an inversion in was was observed (from 23% without to 57%  
with). CoCl<sub>2</sub> itself did not catalyze the hydrocarboxylation reaction.  
The synergistic mechanism was discussed.

IT 492-37-5P, 2-Phenylpropanoic acid

RL: SPN (Synthetic preparation); PREP (Preparation)  
(effect of CoCl<sub>2</sub> and other reaction conditions on the regiochem. of

olefin hydrocarboxylation catalyzed by PdCl<sub>2</sub>(Ph<sub>3</sub>P)<sub>2</sub> complex)  
N 492-37-5 CAPLUS  
N Benzeneacetic acid, α-methyl- (9CI) (CA INDEX NAME)



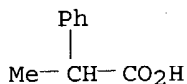
12 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

CESSION NUMBER: 1998:600725 CAPLUS  
OCUMENT NUMBER: 129:316015  
ITLE: Biphasic Synthesis of 2-Phenylpropionic Acid and Ester  
by Interfacial Carbonylation of α-Methylbenzyl  
Bromide  
UTHOR(S): Norman, Carnley; Wilhite, Benjamin A.; Pham, Duc; Lim,  
Phooi K.; Brown, Philip A.  
ORPORATE SOURCE: Department of Chemical Engineering, North Carolina  
State University, Raleigh, NC, 27695-7905, USA  
OURCE: Organic Process Research & Development (1998  
, 2(6), 366-378  
CODEN: OPRDFK; ISSN: 1083-6160  
UBLISHER: American Chemical Society  
OCUMENT TYPE: Journal  
ANGUAGE: English

B An interfacial synthesis technique was successfully extended to the  
carbonylation of α-methylbenzyl bromide in an organic-aqueous sodium  
hydroxide mixture at 35-60 °C and 1 atm using surface-active  
palladium-(4-dimethylaminophenyl)diphenylphosphine complex as the  
catalyst and dodecyl sodium sulfate as the emulsifier. Depending on the  
reaction conditions, 2-phenylpropionate in the form of sodium salt and an  
ester was obtained in 0-83% yield, along with varying amts. of side  
products that included α-methylbenzyl alc., 2,3-diphenylbutane,  
di(α-methylbenzyl)ether, and an asym. ether derived from the  
substrate and an alc. medium. When 2-methyl-1-butanol or  
2-ethyl-1-hexanol was used as the organic phase, 2-phenylpropionate ester and  
sodium salt were obtained in 40-83% yield, with a maximum yield obtained at  
an optimal aqueous base concentration of about 5 M. At a lower aqueous base concentration,

ore  
of α-methylbenzyl alc. was formed, whereas at a higher aqueous base  
concentration, more of 2,3-diphenylbutane and asym. ether were formed. When  
toluene was used as the organic phase, 2-phenylpropionate salt was obtained  
in less than 13% yield, and the major side product was  
α-methylbenzyl alc. at a low aqueous base concentration and 2,3-diphenylbutane  
at a high aqueous base concentration. In all cases, the formation of  
2,3-diphenylbutane was accompanied by a stoichiometric formation of  
carbonate. The latter implicates the involvement of an oxidative  
intermediate-tentatively identified as hypobromous acid-that could  
deactivate the catalyst complex through ligand degradation. Along with the  
carbonylation reaction, carbon monoxide also underwent a slow,  
base-induced hydrolysis reaction to form formic acid. With  
2-ethyl-1-hexanol as the organic phase, the carbonylation of  
α-methylbenzyl bromide showed an apparent temperature-dependent activation  
energy, a first-order dependence each on the substrate, catalyst, and  
ligand concns. up to the catalyst concentration of 0.0020 M and a ligand:catalyst  
ratio of 3:1, and a variable-order dependence on the carbon monoxide  
pressure that switched from first to zero order as the carbon monoxide  
pressure was increased above 450 mmHg. A reaction mechanism is proposed  
which yields model rate and yield expressions in accord with the exptl.  
findings. Results of control expts. with α,α-dibromotoluene  
in a toluene-aqueous sodium hydroxide mixture indicate that replacement of the  
α-Me group in α-methylbenzyl bromide by a second bromo group  
suppressed the formation of substituted benzyl alc. and coupled product.  
They suggest that the broad product distribution in the carbonylation of  
α-methylbenzyl bromide relative to the carbonylation of benzyl  
chloride and α,α-dibromotoluene is attributable to the  
electron-releasing α-Me group making the substrate susceptible to

hydrolysis and coupling reactions.  
IT **492-37-5P**, 2-Phenylpropionic acid  
RL: SPN (Synthetic preparation); **PREP (Preparation)**  
(biphasic preparation of phenylpropionate via interfacial carbonylation of  
methylbenzyl bromide)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)



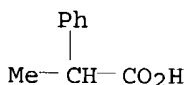
REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:594127 CAPLUS  
DOCUMENT NUMBER: 127:277806  
TITLE: Catalytic conversions in water. Part 6. A novel  
biphasic hydrocarboxylation of olefins catalyzed by  
**palladium** TPPTS complexes (TPPTS=P(C<sub>6</sub>H<sub>4</sub>-m-  
SO<sub>3</sub>Na)<sub>3</sub>)  
AUTHOR(S): Papadogianakis, Georgios; Verspui, Goran; Maat,  
Leendert; Sheldon, Roger A.  
CORPORATE SOURCE: Laboratory of Organic Chemistry and Catalysis, Delft  
University of Technology, Delft, 2628 BL, Neth.  
SOURCE: Catalysis Letters (1997), 47(1), 43-46  
CODEN: CALEER; ISSN: 1011-372X  
PUBLISHER: Baltzer  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 127:277806

AB Exceptionally high catalytic activities (TOF> 2500h<sup>-1</sup>) have been achieved  
in the biphasic hydrocarboxylation of propene catalyzed by water-soluble  
Pd/TPPTS complexes. The activity was even higher than that exhibited by  
organic-soluble Pd/PPh<sub>3</sub> systems. This contrasts with the general perception  
that biphasic catalysis normally exhibits lower rates compared to  
analogous reactions in organic media. The hydrocarboxylation of  
4-isobutylstyrene to ibuprofen and of styrene in a two-phase system is  
also reported.

IT **492-37-5P**  
RL: SPN (Synthetic preparation); **PREP (Preparation)**  
(biphasic hydrocarboxylation of olefins catalyzed by **palladium**  
TPPTS complexes)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 5 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1996:469962 CAPLUS  
DOCUMENT NUMBER: 125:142279  
TITLE: Preparation of arylacetic and arylpropionic acids  
INVENTOR(S): Sheldon, Roger A.; Maat, Leendert; Papadogianakis,  
Georgios  
PATENT ASSIGNEE(S): Hoechst Celanese Corp., USA  
SOURCE: U.S., 6 pp.  
CODEN: USXXAM  
DOCUMENT TYPE: Patent  
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5536874	A	19960716	US 1994-347027	19941130 <--
WO 9626177	A1	19960829	WO 1995-US14578	19951109 <--

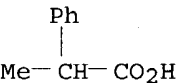
W: ES, GB, JP  
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE  
PRIORITY APPLN. INFO.: US 1994-347027 19941130

OTHER SOURCE(S): CASREACT 125:142279; MARPAT 125:142279

AB The title compds. R1C(R2)(R3)COOR4 [I; R1 = halo, OH, C1-8 alkyl, etc.; R2, R3 = H, halo, Ph, etc.; R4 = H, C1-8 alkyl, Ph, etc.] were prepared by carbonylation of (substituted) arylcarbinols R1C(R2)(R3)OH in a two-phase system wherein one phase is an aqueous medium which contains (1) a catalyst which is a water-soluble complex consisting essentially of a Group VIII metal and a hydrophilic ligand such as **palladium** complexed with trisulfonated triphenylphosphine, and (2) optionally an acid, and the second phase comprises said arylcarbinol. Thus, carbonylation of 4-fluorobenzyl alc. in the presence of Pd(OAc)2 and Na salt of trisulfonated triphenylphosphine in H2O/PhMe afforded I [R1 = 4-FC6H4; R2 = R3 = R4 = H].

IT 492-37-5P, 2-Phenylpropionic acid  
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); **PREP**  
(preparation of arylacetic and arylpropionic acids)

RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)

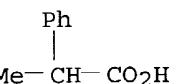


L12 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:340126 CAPLUS  
DOCUMENT NUMBER: 122:314239  
TITLE: Carbonylation of styrene and other olefins to keto compounds with cationic **palladium** complexes  
AUTHOR(S): Pisano, Carmelina; Consiglio, Giambattista  
CORPORATE SOURCE: Swiss Federal Institute of Technology, Department of Industrial Engineering Chemistry, Zurich, CH-8092, Switz.  
SOURCE: Gazzetta Chimica Italiana (1994), 124(10), 393-401  
CODEN: GCITA9; ISSN: 0016-5603  
PUBLISHER: Societa Chimica Italiana  
DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Various carbonylation reactions, i.e., the synthesis of aldehydes (hydroformylation), of ketones and of alternating copolymers by reaction of olefins with carbon monoxide can be catalyzed by **palladium** complexes of the type PdX2L2 (where L2 = mono- or bidentate phosphorus or nitrogen ligand, X = anion with low coordination ability). The chemoselectivity of the catalytic systems is influenced both by the ligand and by the anion. Analogous nickel complexes are not active for carbonylation under similar reaction conditions whereas platinum complexes catalyze only hydroformylation. Using styrene as the substrate, conditions were found that produce either (E)-1,5-diphenylpent-1-en-3-one or (E)-1,4-diphenylpent-1-en-3-one with high selectivity even in the presence of hydrogen. Furthermore, the influence of various reaction parameters on the activity and on the selectivity for this carbonylation reaction has been investigated. With o-methylstyrene the formation of ketones is less selective than for styrene under the same reaction conditions. With other aromatic substrates such as 2-phenylpropene or (E)-1-phenylpropene only aldehyde formation was achieved. By contrast aliphatic substrates give oligomeric ketones.

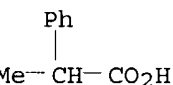
IT 492-37-5P, 2-Phenylpropionic acid  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(carbonylation of alkenes to carbonyl compds. with cationic  
palladium complexes)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)



L12 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1993:448918 CAPLUS  
DOCUMENT NUMBER: 119:48918  
TITLE: Regiochemical synthesis of straight chain acids by the  
palladium(II) catalyzed hydrocarboxylation of  
olefins with oxalic acid  
AUTHOR(S): El Ali, Bassam; Alper, Howard  
CORPORATE SOURCE: Ottawa-Carleton Chem. Inst., Univ. Ottawa, ON, K1N  
6N5, Can.  
SOURCE: Journal of Molecular Catalysis (1993),  
80(3), 377-81  
CODEN: JMCADS; ISSN: 0304-5102  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 119:48918

AB Olefins react with carbon monoxide and oxalic acid, catalyzed by  
palladium acetate in the presence of 1,4-  
bis(diphenylphosphino)butane, to give linear carboxylic acids  
regioselectively. Thus, styrene afforded PhCH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H and PhCHMeCO<sub>2</sub>H in a  
ratio of 85:15 (86% yield). This process shows excellent functional group  
tolerance.

IT 492-37-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)

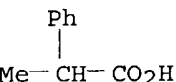


L12 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1993:101236 CAPLUS  
DOCUMENT NUMBER: 118:101236  
TITLE: Formic acid-palladium acetate-1,4-  
bis(diphenylphosphino)butane: an effective catalytic  
system for regioselective hydrocarboxylation of simple  
and functionalized olefins  
AUTHOR(S): El Ali, Bassam; Alper, Howard  
CORPORATE SOURCE: Ottawa-Carleton Chem., Univ. Ottawa, Ottawa, ON, K1N  
6N5, Can.  
SOURCE: Journal of Molecular Catalysis (1992),  
77(1), 7-13  
CODEN: JMCADS; ISSN: 0304-5102  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
OTHER SOURCE(S): CASREACT 118:101236

AB Reaction of mono- and disubstituted olefins, e.g., PhCH:CH<sub>2</sub>, with formic  
acid, catalytic quantities of palladium acetate and  
1,4-bis(diphenylphosphino)butane, in a carbon monoxide atmosphere, affords  
carboxylic acids, e.g., PhCH<sub>2</sub>CH<sub>2</sub>CO<sub>2</sub>H, in 45-98% yield. The reaction is  
regioselective and, in a number of cases, regiospecific for the

straight-chain acid. Functional groups such as trimethylsilyl, aldehyde, ketone, nitrile, acid and amide and trisubstituted olefins can be tolerated in this reaction.

IT 492-37-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)

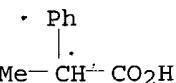


L12 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
ACCESSION NUMBER: 1990:440159 CAPLUS  
DOCUMENT NUMBER: 113:40159  
TITLE: Carbonylation of arylalkyl halides in preparation of  
 $\alpha$ -arylpropionic acids as antiinflammatories  
INVENTOR(S): Elango, Varadaraj  
PATENT ASSIGNEE(S): Hoechst Celanese Corp., USA  
SOURCE: Eur. Pat. Appl., 12 pp.  
CODEN: EPXXDW  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 338852	A1	19891025	EP 1989-303995	19890421 <--
EP 338852	B1	19941130		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
CA 1338592	A1	19960910	CA 1989-596739	19890414 <--
JP 01311044	A2	19891215	JP 1989-100365	19890421 <--
ES 2065373	T3	19950216	ES 1989-303995	19890421 <--
US 6555704	B1	20030429	US 1995-445593	19950522
PRIORITY APPLN. INFO.:				
			US 1988-185184	A 19880422
			US 1990-537865	B1 19900614
			US 1992-834979	B1 19920214
			US 1992-973542	B1 19921109

OTHER SOURCE(S): MARPAT 113:40159  
AB ARCHMeCO<sub>2</sub>H [Ar = Ph, polynuclear aromatic, optionally substituted by (cyclo)alkyl, alkoxy, phenoxy, halo, oxo]], useful as analgesics, antipyretics, and inflammation inhibitors such as ibuprofen, were prepared by carbonylation of ARCHClMe (I) with CO in a protic acidic aqueous medium containing H<sup>+</sup> and dissociated halide ions, in the presence of a Pd complex, e.g., PdCl<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub> as a catalyst, at 10-225° and 100-5000 psig, with the molar ratio of dissociated ions to I of 0.1-5, preferably 0.2-2.0. I were obtained by haloalkylation of the parent aromatic compds. with a hydrogen halide and an alkylation agent, e.g., MeCHO, (MeO)<sub>2</sub>CHMe, etc., in the presence of a Lewis acid. A mixture of MeCHO and Me<sub>2</sub>CHCH<sub>2</sub>Ph (II) was added dropwise to a mixture of II and ZnCl<sub>2</sub> at  $\leq 10^\circ$  over 2 h, HCl was passed through the whole at room temperature during .apprx.2 h, and the stirring continued for 6 h to give I [Ar = 4-(Me<sub>2</sub>CHCH<sub>2</sub>)C<sub>6</sub>H<sub>4</sub>] (III). The latter in C<sub>6</sub>H<sub>6</sub> containing PhCOMe was heated 4 h at 110° in the presence of PdCl<sub>2</sub>(PPh<sub>3</sub>)<sub>2</sub>, concentrated HCl, and KHSO<sub>4</sub>, in an autoclave pressurized with 800 psig CO, to give 72% ibuprofen based on a 99% conversion of III.

IT 492-37-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, by carbonylation of arylethyl halides)  
RN 492-37-5 CAPLUS  
CN Benzeneacetic acid,  $\alpha$ -methyl- (9CI) (CA INDEX NAME)



L12 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 1982:405876 CAPLUS  
 DOCUMENT NUMBER: 97:5876  
 TITLE: Selective phase transfer and **palladium**  
 (0)-catalyzed carbonylation, carbalkoxylation, and  
 reduction reactions  
 AUTHOR(S): Alper, Howard; Hashem, Khaled; Heveling, Josef  
 CORPORATE SOURCE: Dep. Chem., Univ. Ottawa, Ottawa, ON, K1N 9B4, Can.  
 SOURCE: Organometallics (1982), 1(6), 775-8  
 CODEN: ORGND7; ISSN: 0276-7333  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB (Ph3P)4Pd catalyzes the carbonylation of benzylic halides to carboxylic  
 acids using 5 N NaOH and CH2Cl2 at room temperature and 1 atmospheric Although the  
 presence of (C6H13)4N+ HSO4- (a phase-transfer catalyst) improves the  
 yield, a quaternary ammonium salt is not necessary in these reactions.  
 Reduction (and coupling) of halides occurs using [(PhCH:CH)2CO]2Pd as the  
 catalyst under phase-transfer conditions (no reaction takes place in the  
 absence of the phase-transfer catalyst). Esters were obtained by the  
 phase-transfer-catalyzed carbonylation of halides in the presence of  
 (Ph2PCH2CH2PPh2)2Pd, while acids were the principal products in the  
 absence of the quaternary ammonium salt.  
 IT 492-37-5P  
 RL: SPN (Synthetic preparation); **PREP (Preparation)**  
 (preparation of)  
 RN 492-37-5 CAPLUS  
 CN Benzeneacetic acid, α-methyl- (9CI) (CA INDEX NAME)

